



PROFIRE®

SBR-30

LOW-NO_x BURNER

**Low Emissions with Highest Efficiency
at 30 PPM NO_x with 3% O₂ without FGR**

Advanced Technology

Endless Possibilities

The ProFire SBR-30 series is designed for a variety of boiler types such as firetubes, and watertubes. Capable of less than 30 ppm NO_x emissions without FGR, the SBR-30 series features a unique firing head design to achieve controlled combustion leading to low emissions with 3% O₂. Advanced technology allows the SBR-30 series to offer low-NO_x, low CO emissions and up to 10:1 turndown on natural gas.

Controls Help Make the Difference

The Hawk is a complete boiler room solution. It not only integrates the boiler/burner, heat recovery and feedwater systems, but provides complete boiler room data to remote communication systems such as building automation systems, SCADA packages and other remote monitoring systems.

All Hawk packages come standard with:

- Parallel positioning
- Stack temperature with high cutoff set point
- Thermal shock protection
- Dual set points
- Touch screen HMI
- PLC-based combustion control
- Alarm and historical monitoring



Hawk Controls Offer Remote IoT Monitoring

Prometha™ Connected Boiler Solutions provides actionable insights into your boiler operation, and helps you:

- Access boiler insights from anywhere, 24/7/365
- Increase operational efficiency
- Lower total cost of ownership
- Prevent and reduce downtime

promētha™





SBR-30 Explained

The ProFire SBR-30 series burner, capable of less than 30 ppm NO_x emissions without FGR, offers: natural gas fuel option from 16.8 to 54.6 MMBTU/hr. This Low-NO_x burner is also capable of firing #2 Fuel Oil as a backup fuel. The design is ideal for use with applications where low emissions are required and high efficiency is desired. The SBR-30 ppm burner delivers the reliability to meet today's stringent NO_x emission levels, without FGR and avoiding high excess O₂.

ProFire[®] SBR-30



Low-NO_x Emissions as low as 30 ppm achieved without FGR

Maximum Efficiency provided by standardized parallel positioning

Uniform Flame for equal heat transfer allowed by premix fuel

Easy Access air housing for internal components

Silent operation with an advanced combustion air fan wheel; Less horsepower and less noise.

Lower maintenance cost with no FGR or air filters needed

Low-NO_x/CO achieved without a fragile surface combustion burner head, making it safer and more reliable, and requires less maintenance

Integrated Controls with remote IoT monitoring capabilities



Capacities and Ratings

Less than 30 ppm Low-NO_x configuration.

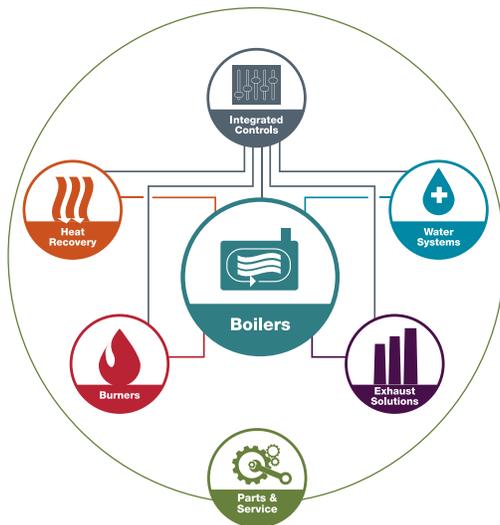
Burner Size (BHP)	400	500	600	700	800	900	1000	1100	1200	1300
Heat Input (MMBTU/hr)	16.8	21	25.2	29.4	33.6	37.8	42	46.2	50.4	54.6
Recommended Furnace Diameter (inch)	37	45	45	50	50	52	52	56	56	60
Recommended Furnace Length (inch)	143	146	152	160	160	200	200	210	210	226
Recommended Furnace Pressure @ 15% Excess Air and NO FGR (inwc)	3.6	4.3	5.6	5.4	7	3.5	4.1	4.8	5.6	5.6
Elevation (ft)	0~2000	0~2000	0~2000	0~2000	0~2000	0~2000	0~2000	0~2000	0~2000	0~2000
Gas Train Inlet Pressure (psig)	5	5	5	5	5	5	5	5	5	5
Oil and Atomizing Air Pressure at Burner Inlet (psig)	100	100	100	100	100	100	100	100	100	100
Fan Motor HP	20	25	30	40	40	50	TBD	TBD	TBD	TBD
Operating O ₂ (% dry)	3.0~3.5	3.0~3.5	3.0~3.5	3.0~3.5	3.0~3.5	3.0~3.5	3.0~3.5	3.0~3.5	3.0~3.5	3.0~3.5
FGR	No									
NO _x (ppm, @3% O ₂) burning Natural Gas	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30
NO _x (ppm, @3% O ₂) burning #2 Fuel Oil	Uncontrolled									
CO (ppm, @3% O ₂) burning Natural Gas or #2 Fuel Oil	≤ 100	≤ 100	≤ 100	≤ 100	≤ 100	≤ 100	≤ 100	≤ 100	≤ 100	≤ 100
Turndown burning Natural Gas*	Up to 10:1									
Turndown burning #2 Fuel Oil	Up to 5:1									
Smoke # burning #2 Fuel Oil	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1

Consult manufacturer on availability of burner sizes.

The information in this document is work in progress and subject to change without notice.

The recommended furnace conditions are based on CBEX firetube boilers. Operating conditions and performance criteria may be different if furnace diameter and length are smaller than the recommended values.

*Consult manufacturer with specific conditions to verify applicability.



Total integration doesn't stop with the burner.

Only Cleaver-Brooks offers complete boiler systems, from fuel inlet to stack outlet, that are completely designed, engineered, manufactured, integrated, and serviced by one company.

Integration starts with the burners, and Cleaver-Brooks has been perfecting this integral element of the boiler system through innovation and expert engineering for more than 90 years.



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